(a) obtaining DNA profile data of a sample that comprises a DNA mixture of two or more individuals;

(b) representing the data and a genotype of the individuals contained in the DNA mixture in a set of linear equations;

(c) deriving a mathematical solution by performing a matrix operation on the linear equations; and

(d) determining the genotype at a locus of an individual contained in the DNA mixture from the mathematical solution.

23. A method as described in Claim 17 wherein the determining step (d) produces an estimate of a proportion or weight of an individual's DNA contained in the DNA mixture.